

Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

English Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Members of Antubochio Cluster in this file picture. Small groups are being paid each month at Cluster Meetings. Make sure you attend each and every meeting of your Cluster.

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Time to prepare your shamba for CF.

TIST Small Group members who have practiced CF have testified that produces a greater harvest more reliably than traditional farming, especially when the rain is scarce.

The holes help catch whatever rain falls and makes it available to the crop.

This article will help you understand better how to practice kilimo hai. Following these best practices can help you get better yields this coming season.

Preparing the land.

Prepare your land at least 1 month before the rains.

- Clear your plot of weeds and bushes. Do not plough.
- Prepare your holes oblong (rectangle) shape. They should each be 15 cm wide, 35 cm long and 15 cm deep. Space holes at least 75 cm apart.
- Take some manure or compost manure and good topsoil and mix it together. Fill the hole with the mixture up to 5 cm below the surface.

Planting.

- When you plant maize seeds (1 -2 days before rains start), plant 4 seeds in the soil across the hole.
- If you are planting sorghum, plant 5-6 seeds at each end of the planting hole after a good shower of rain.
- Cover the seeds with 2.5 cm of the rich soil and manure mixture. After this the soil in the

hole should be about 2.5 cm below the surface of the field.

- The space at the top of the hole enables water to get to the plants when the rains come. You do not need to use chemical fertilizer on the Conservation Farming plot. Your crops will still do better without chemical fertilizer, if you put enough manure.

Weeding.

- Weed around the holes regularly
- Do not weed the entire plot completely. Outside the holes, plants can cover the soil, keeping it cooler and keeping it from eroding in rain and wind. Just weed in and near the holes. Use a panga to clear weeds between the lines or spaces from one hole to the other. Weed frequently to keep weeds from going to seed and spreading in the holes.
- Leave the weed residue in the plot to rot. This will help add soil fertility.

Post –harvest practices.

- Do not burn off the remains on the plot. Leave the residue on the ground so that they make the soil more fertile. Crop remainders can also be used for compost manure.
- Do not graze cattle in the plot. Please remember, we will be glad to celebrate your successful harvest and learn from best practices in your area through this newsletter as well during your cluster meeting.

Start working now!

Antubochio Cluster – We have received our tree payments.

By William Mwito.

Small Group payments at our Cluster, Antubochio, have been done successfully. Many of our Small Groups, encouraged by the trainings that we get during Cluster meetings and this advance carbon credit payment, have continued to plant many more trees.

TIST’s external auditors, also called Validators/ Verifiers, also visited our Cluster last month. They came to see that the data collected and reported on our trees and on TIST and its impacts are correct and accurate. We hope that the tree count and all other activities they were checking are correct and accurate. We know these auditors will determine whether TIST Kenya program can participate in world carbon credit markets, and we know that

qualifying for this market is essential for TIST to be able to work and grow.





Keeping our farms fertile and productive.

By Joseph Gituma

Over time, if we do not manage our land carefully, our farms can lose useful soil nutrients and minerals, and so become less productive. This can happen when a farmer grows one type of crop for several seasons (monoculture), or when soil erodes away. Growing the same crops on our farm year after year also can cause the number of pests for those crops to increase on our land since they have a home and food year after year. They can become so numerous that we cannot harvest a good crop. When we practice monoculture, it can cause a decrease in soil fertility. The removal of essential soil nutrients decreased crop yields and can cause food shortages.

What can we do to keep our farms fertile and productive?

- **Plant leguminous crops or trees that fix nitrogen** – Plants in the bean and pea family have microbes in their roots that can take nitrogen from atmosphere and change it into a form that plants can use. When we plant beans, cowpeas, soy beans, and trees like *Sesbania sesban*, *Leucaena*, and *Acacia*, we can increase the nitrogen in our soils without adding chemical fertilizer.
- **Compost waste and use and green manure**—Compost manure can add varied nutrients to the soil and also improve the soil texture so that it can hold water better. Natural fertilizer can be made by composting—storing in a heap or pit and letting the material degrade—mango skins, vegetable peels, eggshells, crop residues and fallen leaves. Animal manure and urine can also be used. Compost manure is simple to make, provided we keep the compost moist and turn it over regularly while it matures. When the compost manure is decomposing, it produces a lot of heat, which will make it clean and good to add to fields. Mix the manure with the soil when the compost manure is mature.
- **Practice crop rotation:** Different crops add and remove different soil nutrients, so what is removed in one year can be replaced by the next crop the following year. For example, we may practice rotation in a field in this way:
 - Year 1 – beans
 - Year 2 – sorghum
 - Year 3 – maize
 - Year 4 – grazing animals—their waste adds valuable nutrients to our fields, too.
 - Year 5 – beans
 - Prevent soil erosion: As many of soil nutrients are found in the topsoil, any actions that stop soil erosion will help reduce nutrient loss. Practice Conservation Farming and plant trees in your fields. When we follow these best practices, our farms can have good yields for years to come.



Keeping our environment and bodies clean.

By Joseph Gituma

Thousands of TIST farmers worldwide plant millions of trees each year. These trees contribute enormously in cleaning our environment. Trees clean the air, taking up the excessive carbon emission gases from the atmosphere to build their trunks, leaves, branches and roots. This is a hugely important and helpful work. All of the world's people find the world a better place to live when new trees are planted and old ones conserved and protected. Just as we work in TIST to make the environment and air clean, so, too, should we work to keep ourselves and our homes clean and hygienic. Let's follow these best practices, and encourage our families and others to do the same. Trainers, share these best practices on health and hygiene and ask your cluster members to share their best practices, too:

I. Washing our hands -

Washing our hands is simple, but it is one of the most important things we can do to stay healthy and prevent the spread of diseases. During the day our hands get dirty and pick up germs from soil, from other people, from raw meat, and other places in the environment. Germs can enter our bodies and make us sick, and can spread from our hands to others, so it's important to wash our hands thoroughly with water and soap to kill the germs and stop us from getting sick. Washing hands is especially important before preparing food, after using the latrine and before eating.

If we don't wash our hands well, our family may get diseases like diarrhea more often. Studies show that the action of rubbing the hands is the most important factor in removing germs. If soap is not available, sand or ash can also be effective

2. Drying utensils after washing

Drying utensils is important because leftover water can hold germs and give them a place to multiply. We can make simple wooden drying racks to let utensils dry in the sun. Sunlight can help kill germs. If this cannot be done, we can use a clean cloth to dry utensils. If using a cloth, we should wash and dry the cloth regularly to prevent the cloth from becoming a home for germs, and causing germs to spread.

3. Rodent and mosquito control

Rats and mosquitoes can carry diseases. To control these pests, we can:

- Clear our compound of any unwanted bushes and grass
- Stagnant waters provides breeding ground for mosquitoes – drain away any stagnant water near your compound. Even a small amount of water on a piece of rubbish can provide a breeding place for mosquitos that carry malaria, so clear away rubbish.
- Clear away or cover securely any leftover food.
- Keep rubbish outside the house in a covered container or rubbish pit
- Sweep your house and compound daily
- Remember to use mosquito nets all the time

A Healthy TIST Farmer: A Healthy Nation



What the New Kenya Constitution Says about the Environment.

The government of Kenya recognizes the importance of protecting the environment to the health and wealth of Kenya and its people. It states goals and our rights.

Article 69, Part 2 of the new Constitution talks about environment and natural resources. Section 1 in this article reads: The State shall—

- a) Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits.
- b) Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;
- c) Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;
- d) Encourage public participation in the management, protection and conservation of the environment;
- e) Protect genetic resources and biological diversity;
- f) Establish systems of environmental impact assessment, environmental audit and monitoring of the environment;
- g) Eliminate processes and activities that are likely to endanger the environment; and
- h) Utilize the environment and natural resources for the benefit of the people of Kenya.
- i) (2) Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

Article 70 talks about enforcement of environmental rights and states:

1. If a person alleges that a right to a clean and healthy environment recognised and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter .
2. On application under clause (1), the court may make any order, or give any directions, it considers appropriate—
 - a. To prevent, stop or discontinue any act or omission that is harmful to the environment;

- b. To compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or
 - c. To provide compensation for any victim of a violation of the right to a clean and healthy environment.
3. For the purposes of this Article, an applicant does not have to demonstrate that any person has incurred loss or suffered injury.

Article 42 says that every person has the right to a clean and healthy environment, which includes the right;

- a) To have the environment protected for the benefit of present and future generations through legislative and other measures,
- b) Particularly those contemplated in Article 69; and to have obligations relating to the environment fulfilled under Article 70.

Section 71 talks about agreements relating to natural resources and states

1. A transaction is subject to ratification by Parliament if it—
 - a. Involves the grant of a right or concession by or on behalf of any person, including the national government, to another person for the exploitation of any natural resource of Kenya; and
 - b. Is entered into on or after the effective date.
2. Parliament shall enact legislation providing for the classes of transactions subject to ratification under clause (1).

Success in the carbon market is critical for TIST success: we all play a role

In July, a team of independent auditors came to TIST Kenya to ensure that TIST data are accurate. They came to validate and verify the TIST project. They measured and counted trees and spoke with many TIST members to learn about their experiences. We are grateful to the TIST farmers who volunteered their time to help the Quantifiers and Validator Verifiers find TIST groves and to those who shared their stories about TIST.

These audit visits by Validator Verifiers are critical to TIST. If the auditors find our results to be accurate and honest, the data collected by Quantifiers on trees planted by TIST farmers can



be validated and verified. We then can sell the tonnes of carbon. The income from these sales provides the money used to pay Small Groups their tree incentives, to pay for the work Quantifiers and staff do, to pay for cluster activities and for seminars. On the other hand, if the auditors find that our results are not accurate, that we have cut trees or plan to harvest trees before the end of 30 years, they may disqualify TIST from carbon markets. This would mean that there would be no funds to pay tree incentives. There would be no budget for clusters. There would be no training or chances to come together to share what we learn. We all can contribute to help TIST succeed in the carbon market.

Know that your group has been Quantified, and make sure that the Quantification results are accurate: We should know what trees are reported as Quantified on our farms and be sure that these Quantifications are accurate and complete. If the Quantifier reports that there are 500 trees on a farm, but the farmer really only has 400, but says nothing, both the Quantifier and the farmer hurt all of TIST. When that grove is audited, the Verifier will see that data are not accurate and honest, and so TIST will not be able to sell carbon. Ask your cluster representatives if you do not know how many trees have been quantified in your groves and in those in your group. If results are not

accurate, tell your cluster representatives and TIST staff right away so that the data can be corrected.

Make sure you understand the GHG contract: The GHG contract is a promise between TIST farmers and Clean Air Action Corporation, who manages carbon monitoring and marketing for TIST. In it, we promise to plant trees and keep these trees growing for at least 30 years. We promise, as a Small Group, to plant 1,000 trees per year. In return, we receive tree incentives as an advance on income from carbon sold when our trees qualify for carbon markets. We receive training and support to succeed. We should be honest in our commitment to plant and maintain trees and to understand the rules of the carbon market.

Plant more trees, take care of your trees, and recruit your friends and neighbors to TIST. Without trees, there is no carbon stored, and no business to keep TIST running and its benefits coming to us. Let's plant more trees and tell other people about TIST so that they can take part, too. A healthy business grows, and we can all help that happen. Healthy business, healthy farms, healthy planet: let's all do our best to help TIST succeed. **After all, WE are TIST! Working together, with TIST Values, we can accomplish great things.**

Irongo Cluster – A New Cluster in a New Area.

By Philemon

We, TIST Small Groups members from Irongo Cluster, Kuresoi in Nakuru County, are excited to share with the rest of more than 52,000 TIST farmers in Kenya what we have achieved since joining TIST.

Through TIST Cluster trainings, we have learnt new things such as:

- Conservation Farming. We have been taught CF and many of our members have begun to practice it. The crops we are growing with CF are healthy, better than with tilling, and we are expecting higher yields this season.
- Rotational and servant leadership. TIST brought us the new idea of rotating leaders often and regularly as a way of building up people's leadership skills as well as discovering leadership talents from different people. Through TIST, we have been taught and now

practice rotational leadership, both at the Small Group and the Cluster level.

- Tree nurseries management. Working together in TIST Small Groups, collecting and selecting good seeds has really motivated us to work more and increase the number of nurseries.
- Tree planting. Before TIST, many people planted trees too close to one another, which made them grow slowly since they competed with each other a lot. This also meant that they could not easily plant crops together with trees. We now have seen that adequate tree spacing (3-4 m apart) is a best practice. Trees that are well spaced grow strong and healthy, and also can take in more carbon as they grow. Bigger trees mean more tonnes of carbon can be sold, and more income for farmers in TIST.

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Kimereu Version

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Amemba ba cluster ya Antubochio kiri mbicha iji. Ikundi bibinini nibikuriwa o mweri igita ria mucemano jwa cluster. Menyeera ati ugwita micemanione yonthe ya cluster yaku.

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Ni igita ria kuthuranira munda jwaku niuntu bwa urimi bubwega.

Amemba ba ikunbi bibinini bia TIST baria bageretie kurima na urimi bubwega nibaritite ukuji ati nibuciaraga iciara ririnene na rumba gweterwa guti na uguaa kiri urimi bwa kawaida, mono mono ririangai itikung'ana.

Marinya nijatethagia kugwatia ngai iria ikagua na gutuma ruuji ruru rwithirwa rurio kiri kimera. Mantu jaja jagagutethia kwelewa bwega nkuruki uria ubati gutumira njira ya urimi bubwega. Kuthingatira miitire iji iria miega buru gugagutethia kwona iketha ririega nkuruki mbura iji ijite.

Kuthuranira muunda

Thuranira munda jwaku no mweri jumwe kabele ka mbura.

- Rita maria na ithaka muundene jwaku. Ukarima.
- Thuranira marinya jaku. Nijabati kwithirwa jari na warie bwa sentimeta ikumi na ithano, uraja bwa sentimeta mirongo ithatu na ithano na kwinama sentimeta ikumi na ithano. Taarania marinya jaku na sentimeta mirongo mugwanja na ithano kana nkuruki.
- Jukia mboleo inkai na muthetu jumwega jwa iguru na uunganie. Ujuria kirinya na muunganio juju mwanka gikinye sentimeta ithano nthiguru ya nthiguru itirimi.

Kuanda

- Waanda mbeu cia mpempe (ntuku imwe gwita ijiri mbele ya mbura kwambiria), anda mpindi inya kiri muthetu kugitania kirinya.
- Kethira ni ugimbi ukuanda, anda mpindi ithano gwita ithanthatu o muthiene jwa o kirinya gia kuanda nyuma ya mbura injega mma yaura.
- Kunikira mbeu na sentimeta 2.5 cia muunganio juria jwa muthetu jumunoru na mboleo. Nyuma

ya kwongera muunganio juju kirinya kibai kwithirwa kiri senimeta 2.5 nthiguru ya naria nthiguru itirimi.

- Kanya karia gagutigwa kirinyene iguru nigatethagia ruuji gukinyira imera riria mbura iijaga.
- Gutina aja ya gutumira fertilizer cia kuguura kiri muunda jwaurimi jumwega. Imera biaku bikathithia bwega kinya warega gutumira fertilizer, wekira mboleo ing'ani.

Gukuurira iria

- Kuurira iria akui na irinya o igita o igita.
- Ugakurira munda junthe iria rionthe. Oome ya marinya, imera nobikunikire muthetu, bikajuika jurina gapio na bigatuma jutakamatwe ni mbura kana ruugo. Kuurira iria aki marinyene na akui na marinya. Tuumira kibanga gukurira iria gati gati kalaini kana itigatinekuuma kirinya gwita kingi. Kurira iria o igita o igita nikenda maria jatiraciare mbeu na jatamba marinyene.
- Tiga matigari jam aria muundene kenda joorera ku. Bubu bugatethia kuongera unoru bwa muthetu. aria ubati kuthithia warikia guketha
- Ukaithia matigari ja muunda. Jatige nthiguru nikenda jomba gutuma muthetu junora nkuruki. Matigari ja imera no jatumirwe kinya kuthithia mboleo.
- Ukarithia ndithia muundene. Itu rikana, tukagwirua mono gukeneera iketha riaku ririnene na kuthoma kuumania na miitire imiega buru ntuurene yaku gukurukira gazeti iji amwe na igitene ria mucemanio jwaku jwa cluster.

Ambiria kurita ngugi thaa iji!



Gwika miunda yetu inori na irina maciara jamanene.

Ni Joseph Gituma

Igitene riraja, kethira tutimeneera miunda yetu bwega, miunda yetu noite irio bia imera biria biri muthetune, na kwou jugaita maciara jamakai nkuruki. Bubu nobukarika riria murimi akurima muthemba jumwe jwa kimera mbura inyingi (Kimera kimwe aki), kana riria muthetu jwakamatwa. Kuanda kimera kimwe muundene jwetu mwaka o mwaka nibutumaga kinya tunyamu turia tuthukagia imera biu twongereka muundene jwetu niuntu turina nja na irio mwaka o nyuma ya mwaka. No twingie mwanka tukaremwa kwona iciara kuumania na kimera gikithongi.

Riria twamenyeria kuanda kimera kimwe, unoru bwa munda kinyabu nibunyiaga. Kuritwa kwa irio bia imera biria biendekaga bibingi kuuma kiri muthetu nikunyiagia iciara na gugatuma irio bikarega kung'ana.

Niatia tuumba kuhithia gwika miunda yetu inori na igiitaga iciara ririega?

- **Aanda imera kana miti iria ikagira ruugo rwa Nitrogen muthetune**— Plants in the bean and pea family have microbes in their roots that can take nitrogen from atmosphere and change it into a form that plants can use. When we plant beans, cowpeas, soy beans, and trees like *Sesbania sesban*, *Leucaena*, and *Acacia*, we can increase the nitrogen in our soils without adding chemical fertilizer. Imera ndene ya nja ya mung'ao nanono birina tuinto mirine yao turia tujukagia ruugo rwa nitrogen kuuma ruugone na tukarugarura uria imera biumba kurutumira. Riria twaa nda mung'ao, nono, soya na miti ja *Sesbania sesban*, *Leucaena*, and *Acacia*, notwingiyie nitrogen iria iri muthetune jwetu kinya tutiongerete fertilizer
- **Utumiri matigari ja imera na mboleo itiumi**—Mboleo kuumania na imera noyongere irio bibingi bia imera muthetune na kinya kuthongomia muthetu nikenda juumba

gukarakara na ruuji igita riraja nkuruki. Mboleo noithithue na njira ya gwika amwe kana kirinyene na gwika into bora- into ta macau ja maembe, macau ja kuuma riiko, ikonyo bia nkara, matigari ja imera na mathangu jaguite. Mboleo kuumania na ndithia na maumago no jatimirwe. Mboleo ya imera irina uuthu kuthithia, twamenyeria ati irina ruuji na twakara tukimigaruraga mwanka ikaya. Iria mboleo iji ikwora, niritaga mwanki jumwingi, juria jumitheragia na jukamithongomia nkuruki riria yoongerwa muundene. Ungania mboleo na muthetu mboleo yaya.

- **Menyeria kugaruraga kimera kiria ukuanda o nyuma ya mbura:** imera mwanya nibiongagira na gwita irio bia imera mwanya kuuma kiri muthetu, kwou kiria gigaitwa mwaka jumwe nogicokue ni kimera kiu kingi mwaka jou jungi. Mung'uanano, no tugarure imera muundene na njira iji:
 - Mwaka jwa mbele – mung'au
 - Mwaka jwairi – ugimbi
 - Mwaka jwa ithatu – mpempe
 - Mwaka jwa inna – kurithia ndithia—Ntaka yao niongagira irio bia imera miundene yetu kinyayo
 - Mwaka jwa itano – mung'au
- Kuthiria gukamatwa kwa muthetu: Niuntu irio biria bingi bia imera biithagirwa biri muthetune jwa iguru, untu bunthe buria buthiragia ukamati bwa muthetu nibutethagia kunyiyia kuura kwairio bibi. Rimana urimi bubwega na uande miti miundene yenu. Twathingata miitire iji, miunda yetu igaciara maciara jamega miaka imingi iria ikeeja.



Gwika naria gututhiurukite na miiri yetu itheri.

Ni Joseph Gituma

Ngiri cia arimi ba TIST ndene ya nthiguru yonthe nibaandaga milioni cia miti o mwaka. Miti iji nitethagiria nainya mono kiri utheru bwa naria gututhiurukite. Miti nitheragia ruugo, ikijukagia ruugo ruruthuku kuumania na ruugo ikathithia nayo itina, mathangu, biang'i na miiri. Iji ni ngugi irina bata na yagutethia mono. Antu bonthe ndene ya nthiguru nibonaga nthiguru ithongi nkuruki ya gukara riria miti imieru iandagwa na imikuru ikamenyeerwana gukarua.

O uria turitaga ngugi ndene ya TIST kutheria naria gututhiurukite na ruugo, nou tubati kurita ngugi guciika na guika njaa cietu itheri na cia gukarika. Tuthingateni miitire iria miega buru na twikire nja cietu na bangi moyo jwa kugita ou. Aritani, gaanageni miitire iria miega buru kiri thiria ya mwiri na kiri utheru na buurie amemba ba cluster yenu bagaane mitire iria miega buru iria bathingatagira, kinyabo:

1. Kuthambia njara cietu -

Kuthambia njara cietu kuri na uuthu, indi ni gintu kimwe kirina bata mono kiria tuumba kuthithia nikenda tukara turina thiria na kuebera gutamba kwa mirimo. Muthenya njara cietu nicigiaga ngugi na cikooja tunyamu turia tutumaga mbajua kuuma kiri muthetu, kuuma kiri antu bangi, kuumanyama itirugi, na kuuma naangi. Tunyamu tutu notutonye miirine yetu na tugatwajithia, na tugatamba kuuma njarene cietu gwita kiri bangi, kwou irina bata kuthambia njara cietu bwega na ruuji na na sabuni kuuraga tunyamu tutu na kuebera kwajua. Kuthambianjara kurina bata mono mbele ya kuthuranira irio , nyuma ya gwita kioro na mbele ya kuria.

Twarega kuthambia njara cietu bwega, nja cietu no cigwatwe ni mirimo ja kuugia magita jamaingi. Mathomo nijonantie ati gwikitha njara niku kurina bata nkuruki kiri kurita

tunyamu tou. Kethira sabuni itio, muthanga kana muju no jutumirwe.

2. Kunyaria into bia riiko nyuma ya kuthambia

Kunyaria into bia riiko nabia kurira kurina bata niuntu ruuji ruria rutigagwa norugwate tunyamu na gutua antu a guciarania. No tuthithie turutara twa kuumiria into riuene. Riu niritethagia kuuraga tunyamu tutu. Kethira bubu butiumba kuthithika, no tutumire gatambaa gakatheru kuumia into. Kethira ni gitambaa ugutumira, nitubati gukathambia na ukoomia o nyuma ya igita nikenda gatigeke tunyamu tou, na kwou gutambia.

3. Kunyiyia mbea na rwagi

Mbea na rwagi niikamataga mirimo. Kunyiyia tunyamu tutu notu:

- Giite mathaka na nyaki kuuma nja cietu.
- Nduuji ciigari nniciejaga rwagi antu aega aguciaranira- rita ruuji ruria ruigari akui na nja yaku. Kinya turuji tunini kiri karuko kanini norue antu a rwagi ruria rukamataga murimo jwa rwagi aguciaranira, kwou theria wiite ruuko.
- Umariakana ukunikire bwega irio biria biatigara.
- lika ruuko oome ya nyoma ndene ya mukebe jukunikiri kana kirinya kia ruko
- Egera nyomba yaku na nja yaku ntuku cionthe.
- Rikana gutumira neti ciarwagi rionthe.

Murimi wa TIST urina thiria: Nthiguru irina thiria



Uria katiba injeru ikuuga kwegie naria gututhiurukite.

Mulango jwa mirongo itantatu na kenda, gicunci kia biiri ndene ya katiba injeru kiriariria naria gututhiurukite na into biria biario kuuma kaumo. Gicunci kia mbele ndene ya mulango juju niuugite; nthiguru ika—

- Menyeera ati naria gututhiurukite na into biria biriku kuuma kaumo bitithithitue ni muntu ni bigutumirwa na njira iria bitithira na kumenyeerwa na gukarua
- Rita ngugi gukinyira na kumenyeera ati gicunci gia ikumi kiri igana kiri nthiguru ya Kenya nigikunikiri ni miti
- Kumenyeera na kwaramia umenyo mono bwa gintwire mantune jegie gukaraniria kwa imera na nyomoo inyingi na into biria bitiganagirwa ndene ya ntuura
- Gwikira inya antu babaingi ndene ya kubangira, kumenyeera na gwika naria gututhiurukite bwega
- Kumenyeera into biria bitiganagirwa ni rurijo na gukaraniria kwa imera na nyomoo
- Kuthithia mibango ya kumenya witi nambele bwa umenyeeri bwa naria gututhiurukite, utegi ngugi cia naria gututhiurukite na gutegeera mantu jegie naria gututhiurukite
- Kuthiria mitarata na mantu jaria jombikia kua anthu ba naria gututhiurukite
- Gutumira naria gututhiurukite na into biria tuegi kuuma kiumo ta baita kiri antu ba Kenya.
- (2) o muntu wonthe nabati kuritaniria nanthiguru ngugi na antu bangi kumenyeera naria gututhiurukite na kumenyeera ati kurina witi mbele bukumenyeera naria gututhiurukite na bugutumira into biria bituuraga o kumwe kaumo

Mulango jwa mirongo mugwanja jwarairia kwegia kumenyeera ati mantu jegie naria gututhiurukite nijathingati na nigukumenyeerwa uria gukari;

- Muntu akariija kuuga ati uhuru bwa gukara antu atheru na aria gutituma thiria ya mwili ithuka untu buria buri kiri mulango jwa mirongo inna na ijiri butikuthingatwa kana nibukwenda kugitwa, muntu ou no aandikire koti nikenda ategerwa mantu jau na kinya akaewa mantu

jangi jaria joombikia gutuma untu bou bwa gwatwa uhuru bou butikarike.

- Woria ndene ya Clause ya mbele, koti no iuge kana ikaejana mantu jaria jakwonwa jabati—
- Kumenyeera butigakarike, kurungamia na gutigithua gintu kiria kiumba kugitaria naria gututhiurukite;
- Kua rutha muriti ngugi wa thirikari kujukia matagaria gutigithia kana kurungamia gintu kiria kiumba kugitaria naria gututhiurukite; kana
- Kuria muntu uria withirikua agitaritue ni gintu kiria gitumite aatwa uhuru bwa antu atheru na aria mwili jwawe juri thiria
- Niuntu bwa mulango juju ndene ya katiba, muntu uria ukwandikira koti ti mwanka onanie ati kuri muntu witite hasara kana ugitarite

Mulango jwa mirongo inna na ijiri nijugaga ati muntu wonthe nabati gukara antu atheru na aria thiria ya mwiri jwawe itigitarua, iria iri amwe na:

- Kumenyeerwa kwa naria kumuthiurukite ta baita nandi na kiri rurijo gukurukira kumenyeerwa kwa mantu jaria jari kiri sheria,
- Mono baria bar indene ya mulango jwa mirongo itantatu na kenda, na kwithirwa babatiri mantune jegie naria gututhiurukite kulingana na mulango jwa mirongo mugwanja.

Mulango jwa mirongo mugwanja na imwe niaragia kwegie manetu ja gwitikaniria kwegia into biria birio kuuma kaumo biria bitithithitue ni muntu na nijugaga

- Ngugi no irungamue ni thirikari kethirwa—
- Nigwatene na mantu ja kuejana ruutha kana gwitikaniria na kana antu a muntu ungi, amwe na thirikari ya nthiguru, kiri muntu ungi niuntu bwa gutumira gintu kionthe kiria gitithithitue ni muntu kiria kiri Kenya; na
- Niitonyithitue ntuku iu kana nyuma ya ntuku iria ibati.
- Bunge ikamenyeera wiki bwa sheria ikinenkanagira biria ibati ngugine na nobarungamie igitene rionthe ndene ya clause ya mbele



Cluster ya Irongo – Cluster injeru ndene ya ntuura injeru.

Ni Philemon

Batwi, amemba ba ikundi bibinini bia TIST ndene ya cluster ya Irongo, Kuresoi ndene ya county ya Nakuru, turina gikeno gikingi mono kugaana na bangi ba arimi ba TIST nkuruki ya ngiri mirongo itano na ijiri ndene ya Kenya kwegie jaria tuthithitie kuuma tugutonya ndene ya TIST.

Gukurukira moritani ja TIST ja cluster, nituthomete mantu jameru ta:

- Urimi bubwega. Nituritenwe kurima bwega na amemba babaingi betu nibaambiritie kurima na njira ya urimi bubwega. Imera biria tukurima na njira ya urimi bubwega biri na thiria inthongi, nkuruki ya biria birimi na njira ya gutiira na nitweterete maketha jamanene nkuruki mbura iji.
- Utongeria bwa kithiuruko na bwa uthumba. TIST niyaturetere ithuganio ririeru ria kugarurira atongeria o igita o igita na o nyuma ya igita rinna ta njira ya gwaka utongeria bwa antu amwe na kumenya antu mwanya baria bari na kiewa kia utongeria. gukurukira TIST, nituritani na na

nandi nituthiurukagia utongeria, kiri gikundi gikinini na kiri cluster.

- Kumenyeera minanda ya miti. Kurita ngugi amwe ndene ya ikundi bibinini bia TIST, kwoja na gutaara mbeu injega nigutwikirite motisha ya kurita ngugi nkuruki na kwongera minanda.
- Uandi bwa miti. Mbele ya TIST, antu babaingi nibaandite miti ikuianiritie, untu buria bwatumaga igakura mpaari niuntu niyashindanaa gatigati ka yongwa mono. Bubu ni kuuga imera bidingiandanirua amwe na miti na uuthu. Nandi nitwonete ati gutarania miti bwega (mita ithatu gwita inya) ni mwitire jumwega nkuruki. Miti iria itareniebwege nigiaga inya na ikagia thiria na kinya niumbaga kujukia ruugo ruruthuku rurwingi nkuruki o uria igukura. Miti iminene nkuruki ni kuuga tani inyingi cia ruugo ruruthuku no ciendue na mbeca inyingi nkuruki kiri amemba ba TIST.

Cluster ya Antubochio – Iturakinyirwe ni mbeca cia miti yetu.

Ni William Mwito.

Kuriwa kwa ikundi bibinini ndene ya cluster yetu ya Antubochiu, nikuthithitue kathira. Ikundi bibinini bietu bibingi, biikiri inya ni moritani jaria tukinyagirwa nijo micemanione ya cluster na mbeca iji kuumania na thoko ya ruugo, nibetite na mbele kuanda miti ingi imingi.

Ategi ngugi ya TIST ba omme, nibariungire cluster yetu mweri muthiru. Nibejite kwona kethira mantu jaria jaandikitwe na jaandikwa kwegie miti yetu na kwegie TIST ni jamma na mantu jaria TIST itumite ni jamega na jaria jario. nitu gwitikia ati utari miti na mantu jangi jaria bategaga jakaumira jari jaria jario na jamma. Nitwije ategi ngugi nibo bakauga kethira muradi jwa TIST ndene ya Kenya jukomba gutonya kiri thoko ya nthiguru yonthe ya ruugo, na

nitwiji ati kuumbana gutonya ndene ya thoko iji kurina bata mono kiri TIST nikenda yiumba kurita ngugi na gukura.



Mazingira Bora



TIST

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Kikuyu Version

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A memba a Antubochio Cluster mbica-ini ya tene. Tukundi tunini turihagwo o mweri mucemano-ini wa Cluster. Geria ukage guthii micemano yothe ya Cluster.

Inside:

Mahinda ma kuhariria mugunda waku niundu wa Kilimo Hai. Page 2

Kuiga migunda iitu iri minoru na irute magetha maingi. Page 3

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Uria katiba njeru irauga uhoro wigii maria maturigiciirie. Page 5

Irongo Cluster – Cluster njeru itura rieru. Page 6

Antubochio Cluster – Nitwamukirite marihi maitu. Page 6



Mahinda ma kuhariria mugunda waku niundu wa Kilimo Hai.

Arimi aria marimite na Kilimo Hai mari na uira ati magetha ni maingi gukira urimi wa ki-nduire na makiria riria mbura iri nini.

Marima nimateithagia maai ma mbura kuigika na guteithia mimera na njira iria njega.

Uhorro uyu niuguguteithia gutaukuo wega uria ungiteithika na Kilimo Hai. Kurumirira mitaratara miega niguguguteithia kugia na magetha mega.

Kuhariria mugunda waku.

Hariria mugunda waku mweri umwe mbere ya mbura yurite.

- Tuguta mahuti maria mari mugunda-ini, ndukarime.
- Enja marima ma rectangle. Magiriirwo nigukorwo na warii wa 15cm na uraihu wa 35cm na uriku wa 15cm na umataganie na utaganu wa 75cm.
- Ikira thumu na tiiri wa iguru na utukanie. Ikira mutukanio ucio na utigie 5cm.

Kuhanda

- riria wahanda mbembe(matuku 1-2 mbere ya mbura yurite), handa mbegu 4 irimaini.
- Wahanda muhia, handa 5-6 irima-ini thutha wa mbura kuura.

- Humbira mbegu na tiiri muigana wa 2.5cm.
- Haria irima ritaiyurite hateithagiriria kuiga maai.

Ndurabatara gutumira fertilizer ukihuthira Kilimo Hai. Mimera yaku no igukura wega ona hatari fertilizer ungikira thumu muiganu.

Kurimira

- rirmira irimaini maita maingi.
- Ndukarimir mugunda wothe. Nja ya irima, mimera no ihumbiretiiri, niguo kuuiga uri mugunyu. Rimira hakuhi na irima. Huthira ruhiu kwehutia riia riria riri gatagati-ini ka mimera. Rimira maita maingi niguo riia ritikaingihe irima-ini.
- Mahuti ma riia riria watuguta matige mugunda-ini. Njira ino niyongagirira unoru tiiri-ini.

Maundu ma thutha wa kugetha.

- Ndugacine mahuti mugunda thutha wa magetha. Tiga mahuti macio mugunfa-ini niguo manorie tiiri. Matigari ma mimera nomathondeke thumu.
- Ndukariithie mahiu mugunda-ini, ririkana nitugakena tugikunguira magetha maku na guthoma kuma kuri wee.

Ambiriria wira riu.



Kuiga migunda iitu iri minoru na irute magetha maingi.

Mwandiki: Joseph Gituma

Gwa kahinda, tungiaga kumenyerera migunda iitu wega, noite unoru wa tiiri na indo ingi na yage kuruta magetha maingi. Uu nokuhoteke riria murimi ahanda irio cia muthemba umwe gwa kahinda kanene, kana tiiri ukuo ni maai. Gukuria kindu kimwe gwa kahinda kanene nigutumaga tutambi tuingihe mugunda na tukaga kugia na magetha mega.

Riria tweka uu, nituranyihia unoru wa tiiri. Riria unoru wehra tiri-ini no kugie na ng'aragu.

Niatia tungika niguo migunda iitu iikare iri minoru na irute magetha maingi?

- Handa irio iria ciongagirira unoru – irio ta mboco nicikoragwo na hinya miriini yacio wa kwongerera unoru tiiri-ini. Riria twahanda mboco, minji, njahi soya na miti ta sesbania, Leucaena, na Acacia nituonngagirira unoru tiiri-ini.
- Huthira thumu – thumu niwongagirira unoru tiiri-ini na ukaiga maai wega. Fertilizer cia kinduire nocithondekwo na mahuti kuigwo irima-ini. Nowikire indo ta makoni ma maembe, mahuti ma mboga, makorogoca ma matumbi na matigari ma irio, mai ma mahiu na indo ingi.

Riria thumu uyu urethondeka, niukoragwo na urugari muingi uria ugutuma ukorwo uri mutheru.

Tukania thumu na tiiri riria thumu wahia biu.

- Huthira urimi wa gucenjania: mimera ngurani niyongagirira unoru kwa uguo kiria kiarutwo mwaka-ini umwe noucokio mwaka ucio ungi. Kwa muhiano notucenjanie urimi na njira ino;
- Mwaka 1 – Mboco
- Mwaka 2 – Muhia
- Mwaka 3 – Mbembe
- Mwaka 4 – Kuriithia mahiu
- Mwaka 5 – mboco
- Giririria tiiri kumana na gukuuo ni maai: na tondu unoru muingi wa tiiri ukoragwo tiiri-ini wa iguru, kaundu o gothe karagitira tiiri kumana na gukuuo niguteithagia. Huthira urimi wa Kilimo Hai na uhande miti mugunda-ini. Riria twarumirira njia ici, migunda iitu noirute magetha maingi miaka miingi.



Kuiga maria maturigiciirie ohamwe na miiri iitu iri mitheru.

Mwandiki: Joseph Gituma

Makiri maingi ma arimi a TIST thiini wa thi nimahandaga miti mamilioni o mwaka. Miti ino niitetithagiriria muno gutheria maria maturigiciirie. Miti niitheragia riera, ikeheria carbon iria irutagwo ni iganda. Ino ni njira na wira mwega. Andu othe a thi nimonaga thi iri yo njega na makiria riria kuri na miti na makahanda miingi ohamwe na kumenyerera iria mikuru.

Ota uria turaruta wira TIST kwagirithia maria maturigiciirie noguo twagiriirwo gutigirira ithui na micii iitu nimitheru. Rekei turumirire mitaratara ino miega na tuhinyiririe aria angi gwika uguo. Athomithania, heanai uhoro uyu wa utheru na murie amemba a cluster kuheana uhoro uyu kuri aria angi.

I. Guthambia moko maitu

Guthambia moko maitu nikuhuthu muno, no ni umwe wa maundu maria tungika niguo twigitire kumana na mirimu. Muthnya, moko maitu nimagiagwo ni giko kuma tiiri-ini, kuma kuri andu ohamwe na nyama njithi. Germs nociingire mwiri-ini na citurehere mirimu na tutheremie kuri aria angi. Kwa uguo niwega guthambia moko maitu wega na maai na thabuni niguo kuraga germs na gutugitira kumana mirimu. Withambe moko makiria mbere ya uhariirie irio na thutha wa kuhuthira kioro na mbere ya kuria.

2. Kuniaria indo cia riiko thutha wa guthambia

Kuniaria indo cia riiko thutha wa guthambia ni kwa bata muno tondu maai maria matigaraga thutah wa guthambia nomarehe germs. Notuthondeke handu hakuniarithiria indo ici. Angikorwo uu gutingihoteteka, huthira gitambaya kuniarithia indo. Angikorwo urahuthira gitambaya kuniarithia indo, niwagiriirwo niguthambia gitambaya kiu mbere ya kuhuthira.

3. Kwigitira kumana na mbia na rwagi

Mbia na rwagi nicitambagia mirimu. Kugiririria nyamu ici, ni tu;

- theria nyumba-ini
- maai mataratherera nimaheaga rwagi handu ha guciararira-thereria maai mothe mari hakuhi na nyumba. Ona muigana munini wa maai ti mega niundu wa rwagi ruria rurehaga murimu wa Malaria.
- Ehutia kana uhumbire irio iria ciatigara.
- Iga giko nja ya nyumba n auhumbire.
- Huthira neti ya rwagi ugikoma

Ugima mwega wa mwiri kuri murimi wa TIST: Ugima mwega wa bururi.



Uria katiba njeru irauga uhoro wigii maria maturigiciirie.

Article 69, Part 2 thiiini wa katiba njeru kiriraririria maria maturigiciirie. Section I iruuga uu;

- a) Uthukangia wa mari amturigiciirie na kuhuthira wega maria maturigiciirie mamrnyerwo.
- b) Gukinyiria gichunji gi ikumi hari igana kia miti.
- c) Kugitira ki-watho miti na umenyo wa ki-nduire.
- d) Keurehe muingi hamwe hari kumenyerera mititu.
- e) Kumenyerera indo cia ki-merera.
- f) Guthondeka mutaratara wa guthima maria maturigiciirie nakumamenyerera.
- g) Kunina maundu maria mangituaririria guthukangio kwa maria maturigiciirie, na
- h) Kuhuthira wega maria maturigiciirie.
- i) O mundu ari na itemi kunyitanira na honge ingi cia thirikari kugitira na kumenyerera maria maturigiciirie.

Article 70 iraririria ihooto cia maria matuigiciirie

1. Mundu o wothe angiona ati ihooto cia maria maturigiciirie nicikirukitwo, ikaga kuheanwo na athii igoti-ini na andikithie ciira.
2. Ungiandikithia ciira kuringana na (I, igoti noritue ciira ta uu
 - a. Kugitira, kurugamia kana kunai undu o wothe muuru na wakunina maria maturigiciirie.

b. Riathe officer uria urumbuyanagia na maundu macio oe ikinya kurugamia maungdu macio.

c. Kuriha mundu ungikorwo ahutitio ni undu ucio.

3. Niundu wa gicunji giki ciira ndwagiriirwo nikwonania kana mundu niathiite hathara **kana akagurario**.

Article 42 irauga ati mundu o wothe ari na kihooto gia kugia na maria maturigiciirie matheru na ihooto ta ici;

a) Kugitira maria maturigiciirie ki-watho niundu wa njjarwa na njjarwa.

b) Muno muno ihooto iria ciaririirio thiiini wa article 69 na kugia na ihooto iria ciritwo thiiini wa article 70.

Gicunji kia 71 kiraririria uiguithanio ukonainii na natural resources.

1. Marihi o mothe nimaguthuthurio ni bunge angikorwo;

a. Kihhooto na uiguithanio wa mundu ka handuini haa mundu ucio kana thirikari niundu wa guthukangia maria maturigiciirie

b. Marihwo kahinda karia kagiriire.

2. Bunge ikire watho wa guthurania marihi maria maguthuthurio thiiini wa Clause (I).



Irongo Cluster –Cluster njeru itura rieru.

Mwandiki: Philemon

Ithui, amemba a gikundi kuma cluster ya Irongo, Kuresoi thiini wa Nakuru county, nitukenete tukira arimi acio angi tiini wa TIST makiria ma 52,000 Kenya maria tuhotete kuma riria twaingirire TIST.

Kuhitukira githomo gia TIST, nituthomete maundu meru ta;

- Kilimo Hai. Nituthomithitio Kilimo Hai na aingi a arimi aitu nimarathura urimi uyu. Irio iria turarima kuhitukira urimi uyu nicirakura ciri na hinya na nitwetereire magetha maingi makiria kimera giki.
- Utongoria wa guthiururukana na wakwiheana. TIST niyatureheire njira njeru ya utongoria niguu o mundu akorwo na kamweke ga

gutongoria na kwonania utongoria wake. Kuhitukira TIST nitutomithitio utongoria uyu thiini wa ikundi nginya gikiro kia cluster.

- Guthondeka tuta. Tukiruta wira turi ikundi-ini, kungania na guthura mbegu iria njega nigutuhete hinya na mwihoko munene.
- Uhandi wa miti. Mbere ya TIST, andu aingi nimahandaga miti itumanite muno, njira iria yatumaga miti ikure kahora muno tondu niyatharanaga na iria ingi. Uu nikuga ati arimi aya matingiahandire kindu kingi mugunda-ini ucio. Riu nitwonete ati utaganu muiganu wa miti(3-4m) niguu mwega. Miti iria mitaganie niikuraga na-ihanya na iri na hinya. Na noirute carbon nyingi. Miti minene yugaga ati noguo ikuruta carbon nyingi na arimi magateithika.

Antubochio Cluster – Nitwamukirite marihi maitu.

Mwandiki: William Mwito.

Marihi maikundi thiini wa cluster iitu ya Antubocio nimarihitwo. Ikundi nini ciitu niundu wa githomo kuhitukira micemano iitu ya cluster na marihi maya ma carbon credit nimathiite na-mbere kuhanda miti miingi.

Athuthuria a nja a TIST, aria no o Validators/verifiers, nimacereire cluster iitu mweri muhituku. Nimokire kwona miti iria yandikithitio na kurora kana ni ma. Niturehoka ati miti iria yatarirwo na maundu maria mangi maroragwo nimakinyaniru. Nituramenya ati auditors aya nimakurora kana TIST niikinyitie ikiro cia gukorwo thiko-ini ya carbon

credit na n itui kuhitukio gwa TIST ni kwa bata muno.



Mazingira Bora



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Kikamba Version

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Members of Antubochio Cluster in this file picture. Small groups are being paid each month at Cluster Meetings. Make sure you attend each and every meeting of your Cluster.

Inside:

Ni ivinda ya kuseuvia miunda kwa nima ya kusuvia (cf). Page 2

Kwikalya miunda yitu yi minou na yina usyao. Page 3

Kwikalya mawithyululuko mematheu na mii yitu. Page 4

Undu miao myeu ya Kenya inikwasya lulu wa mawithyululuko. Page 5

Ngwatanio nzeu ya Irongo Cluster. Page 6

Ngwatanio ya antubochio(cluster) kukwata ndivi yoo kumana na uvandi wa miti. Page 6



Ni ivinda ya kuseuvya miunda kwa nima ya kusuvia (cf).

Tukundi tunini twa Tist tula twithiitwe tuitumia nzia ino ya nima ya kusuvia (CF) nimaendee na kukwata ngetha mbingi na nzeo kwi yila mana tumiaa nzia sya kitene sya nima ona yila mbua nini.

Maima nimatetheeasya kutumaninia kiw'u yila mbua yaua kwoou uyithia kivakuvi kwa mimema.

Ithanguu niyikutwetheesya kuelewa na kumanya mbee iulu wa Kilimo hai. Kuatiia nzia ithi nikuukutetheesya kukwata ngetha nzeo mbua ino yukite.

Kuseuvya muunda.

Seuvya muunda waku vainyiva mwai umwe mbee wa mbua kwambiia.

- Thesya kisio withie kiina yiia kana ikuthu. Ndukaime.
- Seuvya maima maku mema kona inya. Kila yimwe yaile ithiwa yina uthathau wa 15cm, uasa wa 35cm and uliku wa 15cm. Utaaniu wa maima waile ithiwa wi 75cm.
- Osa vuu na muthanga wa iulu uvulany'e na uyususya yiima yii ta 5cm na muvulany'o usu.

Kuvanda.

- Yila ukuvanda mbemba (mithenya ili ka umwe mbee wa mbua kwambiia) vanda matonya ana muthangani usu ikelene ma mbemba.
- Ethiwa wi vanda muvya vanda matonya 5-6 kithyululu mwisoni wa yiima itina wa mbua kua nesa.
- Vwika mbeu na muthanga muvulanye na vuu uliku wa 2.5cm itina wa uu yiima yitiwa yina mwanya wa 2.5cm.

- Mwanya uyu watiwa niw'o utetheeasya kiw'u kuvikia mbeu/ngii yila mbua yaua.
- Tilasima utumie mbolea ya kuaa (fertilizer) yila ukwika uimi wa kusuvia muundani waku. mime yaku noikwika nesa watumia vuu wa yiima.

Kuimia.

- ima uthyululukite maima kaingi
- Ndukaime kisio kiu kyothe savali umwe vuu. Nza wa maima, mimea noivwike muthanga na kutetheesya kuuthithya na kusiiia kukuwa kwa muthanga ni nzeve kana mbua. Ima tu vakuvi na yiima na yimani. Tumia kilovoo/kivanga kwenga yiia yila yi mwanyani ula uaanitye maima. Ima kaingi kusiiia yiia kuvikia mimea .
- Tia mavuti aya na yiia moee kisioni kiu, nundu moa meendee na kuete unou wa muthanga.

Kuvutha Itina wa ngetha.

- Ndukavivye matialyo/mavuti muundani. Ekana namo nundu ni unou wa muthanga, kana ukue ukamainde yiimani useuvye vuu/mbolea.
- lilikana ndukaingiie indo muundani wamina ngetha.
- Kwa ndaia lilikana kana tukatana naku weethiwa na ngetha nzeo itina wa kwimanyisya na kuatiia nzia nzeo sya uimi wa kusuvia kwisila ithanguni yii na mbumbanoni sya ngwatanio yaku sya kila mwai.

Ambiia uthukuma oyul!



Kwikalya miunda yitu yi minou na yina usyao.

ana Joseph Gituma

Kwa ivinda tuisuviaa miunda yitu undu vaile, miunda yitu noyasye unou na ieka kusyaa nesa. Nthina uyu kaingi nulikaa ethiwa muimi akavanda muthemba umwe wa mumea kutungiliilo vandu vamwe kana muthanga wakuwa. Kuvanda mumea umwe muundani waku kila mwaka nokutume tusamu tulatwanangaa liu tuendeeaa na usyaana nundu twina liu na wikalo mwaka kuthi ula ungi. Notwingive na ukethia tuiketha ona kwina usyao museo nundu nitutonya uya kana kwananga usyo wa mumea usu.

Yila twaendeeaa na kuvanda muvai umwe wa mumea now'o unou wa m,uthanga uendeeaa kuoleka na kwoou veethiwa na unyivu uyithia kuinakethwa.

Nata tutonya kwika kwikalya unou wa muthanga?

- Vanda muthemba wa leguminous/mboso ila ietae nitrogen muthgangani - mithemba ya miti ino nita mboso, nzuu, nzavi, mbumbu nundu niyumasya nzeve ya nitrogen kuma nzeveni na imitunda muthangani vala itonya kutumiwa ni mimea ingi. yila twavanda nzuu, mboso, nthooko, na miti ta Sesbania sesban, leucaena na Acacia, notwongele nzeve ya nitrogen muthangani tutekwongela vuu wa ndawa (fertilizer).
- Vuu wa ngilini na vuu wa yiima - vuu niwongelaa monou kivathukany'o na no utetheesye kukwatya kiw'u nesa. vuu nouseuvwe kwa kwinda yiima na kususya motialyo ma mavuti na makoa ta masuo ma maembe na syindu ila syoaa. Vuu wa indo na maumao no utumike.

Vuu wa yiima ni wi laisi kuseuvya ethiwa tukekalya vuu wi mwiu na uvindua oundu uendee na uvya. Yila vuu uyu uendee na uvya ni wumasya mwaki ula uendeeaa nukuthesya na kwailya vuu uyu ila witumika. Vulanya vii na muthanga wamina kuvya.

- Ivundisye kutumia nzia ya kuima uikuania mithemba ya mimea:- mimea kivathukany'o niyongelaa na kuola monou kivathukany'o muthangani, kwoou muthemba umwe wa unou waumwa ni muthemba umwe wa mumea nutungiawa ni mumea ungi. Kwa ng'elekany'o
- Mwaka wambee - Mboso / Kivulany'a
- Mwaka wa Keli - Muvya/mwee/uimbi
- Mwaka wa katatu- Mbemba
- Mwaka wa kana - Kuithya - kya kya indo nikyongelaa unou.
- Mwaka wa katano - Mboso / Kivulany'a
- Kusiia kukuwa kwa muthanga:- nundu unou mwingi wa muthanga withiawa muthangani wa iulu nzia syoothe ila itonya utumiwa kusuvia muthanga uyu kukuwa nisyaille kuatiwa. Tumia nzia ya uimi wa kusuvia na kuvanda miti ithekani situ. Yila twaatiia nzia nzeo sya uimi now'o tukethaa nesa mwaka kuthi ula ungi.



Kwikalya mawithyululuko mematheu na mii yitu.

na Joseph Gituma

Makili ma aimi ma TIST nthi yonthe nimaandaa mamilioni ma miti kila mwaka. Miti ino nietae mauvinduku manzeve na klumithesya. miti nithambasya nzeve kwa kwosa nzeve ila itavisaa mbingi thini wa mawithyululuko kwa kuseuvya makonde, matu na mbaka na mii yayo. Wia uyu ni wavata muno. Andu oother ma nthi monaa nthi ve vandu vaseo va kwikala yila miti myeu yavandwa na ila mikuu yasuviwa.

Oundu tuuthukuma thini wa TIST kuikiithya nzeve ni ntheu now'o twaile kuthukuma kuikiithya onaitu na misyi kwitu ni kutheu. Tuatiie mawalany'o maseo ma utheu na tuithuthya ma nyumba situ kwithiwa me atheu. Amanyisya nimataa ene ma ngwatanio ila ingi iulu wa utheu na mwikalo museo

1. Kuthamba moko maitu.

Kithamba moko ti undu muito, na niundu umwe ula tutonya kwika kuikiithya nitweethiwa na uima wa mwii nundu nikusiiaa kunyaiika kwa uwau. Muthenya moko nimakwataa kiko na nitutonya ukwatwa ona ni tusamu tula tuetae uwau(germs) tula tutonya utukwata kuma muthangani, anduni angi, nyama mbithi na kundu kungi kwingi ta kula twikwatilaa.

Tusamu tuu (germs) nitutumaa tuwaa na nitonya unyaiikw'a kuma kwokoni kwa mundu umwe kuthi kwa ula ungi na notusiie kunyaiika kwasyo ethiwa nitwathamba moko na savuni kila ivinda. Kuthamba moko kaingi nikwaile mbee wa kuseuvya liu na itina wa kutumia kyoo, na mbee wa kuya.

Twalea uthamba moko nesa andu ma nyumba situ nimatonya uwaa kwituuu kaingi. Kaingi kuthamba na kutitia moko nikw'o kumasya germs. Ethiwa savuni ndwivo, kithangathi kana muu niwithiawa wi museo.

2. Kunyasya miio itina wa kuthambya.

Kunyasya miio nikwavata nundu kiw'u kila kyatiwa miioni nikitonya kutuma germs iendee na kwingiva na kwiana. Ni useo kuseuvya utaa/waa wa kwanika miio suani. Kyeni kya sua nikyuaa germs. Ethiwa vaitonyeka thambya kitambaa kya uvanguula miio na uikyanika suani na ithiwa uikivua na kukyanika kaingi nikana withie kiinatwika wikalo wa germs na kuinyaiikya.

3. Kusiiia Mbia na Umuu.

Mbia na umuu nikuaa uwau kwoou nitwaile utata na vinya kusiia kutuvikia kwa nzia ithi

- Enga kiwanza/kituto kyaku ikuthu na nyeki ila itena vata.
- kiw'u kila kituumene ni vandu va umuu kusyaania kwoou kinzie nzia kithi. Ona kaw'u kanini nthini wa takataka novethiwe ve vandu va umuu kusyaania kwoou veta takataka w'othe na uyikalya kwi kutheu.
- Vetanga na uikunika liu w'othe ula watiala
- Mavuti oonthe me nza ikiithya nimekala me makuni kana umekie imani ya kiko.
- Tuta nyumba yaku na nza kila muthenya.
- Lilikana kutumia neti sya kusiiia umuu kila ivinda.

Uima wa muimi wa tist ni uima wa nthi.



Undu miao myeu ya Kenya inikwasya lulu wa mawithyululuko.

Kilungu kya (Article) 69, kya kisio kya keli (part 2) thini wa miao myeu yineena iulu wa mawithyululuko na mothwii ma nthi ala maikw'o kuma tene, ngaliko ya mbee (section 1) ya kilungu kii kya 69 yisoma, miao ya nthi yitu ika:-

- (a) Ikakiithya utumiku utewakuvinyiia na utumiku witikilika kana mwailu na kuungamia na kusuvia mawithyululuko na Mothwii kana moseo ma nthi, vamwe na kuikiithya kuaanwa kwiananu kwa usyao wa uthwii na moseo ma nthi alamaumanite na mawithyululuko.
- (b) Kuthukuma na kieleelo kya kwona nthi yitu ya Kenya niwakitwe ni miti kisio kya kilio/ kilungu kya ikumi kwa yiana (10%).
- (c) Kusuvia na kwailya syindu kwa nzia ya umanyi ula watumiawa tene (kikamba) iulu wa utuikana umanyi wa musyawa iulu wa mothwii ma nthi thini wa mbai (community).
- (d) Kuthingiisya andu metikile kukitia/ kung'ang'ania, kusuvia na kuungamiwa kwa mawithyululuko.
- (e) Kusuvia Mothwii ma nthi na mosyao mayo.
- (f) Kuseuvya mivango na nzia sya kusisya mawithyululuko, kumekia kithimini na kusyaiisya mawithyululuko.
- (g) Kuvetanga Nzia na Mikalile kana mikanilye ila itonya kuthukya mawithyululuko.
- (h) Kutumia mawithyululuko na mothwii ma nthi kutenya andu ma Kenya.
- (i) Kila mundu niwailite kukwatana na isio sya nthi yitu na andu ala angi kusuvia na kusyaiisya mawithyululuko na kuikiithya kana kwina ui wa ivinda yii (utaalamu) wa kwikalya na kwiania na kutumika kwa mothwii ma nthi.

Kilungu kya (Article) 70, Kineena iulu wa kuthingililwa kwa uw'o wa mawithyululuko na nthi;

- 1) Ethiwa mundu easya enaw'o wa utheu na uima wa mawithyululuko na kumanya na kusuvia ungu wa kilungu (Article) 42 nivethiitwe kana nivatonyeka kuvatwa, kutumiwa nai, na kutulwa kwa miao, na kutelemw'a, mundu usu no athi kotini na kwitya kumw'a mavityo vamwe na maundu angi maseo ma usili wa koti inikwona mailite kuatiania na undu uu.

- 2) Kuatiania na kilembete kya miao (Clause) 1, koti noinengane nzia kana walany'o ula ikwona wailite ku:-
 - a) Kusiiia, kuungamia kiko kyothe kana kumw'a kila kithuku kana kitailite thini wa mawithyululuko.
 - b) Kulasimithya muthukumi wonthe wa andu kwosa itambya kusiiia kana kuungamia meko kana kumya kila kithuku kana kiuthukya mawithyululuko, kana
 - c) Kuiva mundu ula uumiitw'e nundu wa kutetea w'o wa utheu na uima wa mawithyululuko.
- 3) Kwondu wa kilungu kii (Article), mundu ula wititye tilasima onany'e kana nukwatite wasyo kana kumia.

Kilungu (Article) 42 yiasya kila mundu ena w'o kana niwaile kwithiwa na utheu na uima wa mawithyululuko, ila yina w'o wa:-

- a) Mawithyululuko masuvie kwa utethyo na vaita wa umuthi na uni kwa syawa syukite kwisila kuseuvya miao na nzia mbailu sya kusuvia mawithyululuko.
- b) Kwa ala mekwiw'a mena mesilya ma kilungu (Article 69) na mena muio kana watho uatianie na mawithyululuko kianiw'a ungu wa kilungu (Article) 70.

Ngaliko ya (section) 71 yineena iulu wa kiw'ana iulu wa mothwii ma nthi na nthi.

1. Uthukumi muna niwaile kwailw'a ni ikomano ya ayumbe ethiwa:-
 - a) Ikalikana na kwitikilika na uw'o kwa kwitikilwa kana vandu va mundu owothe vamwe na wiyathi wa kusuvia nthi, kwa mundu ungi ndakatumiwe nai nundu wa mauthwii ma nthi yitu Kenya, na
 - b) Niyikiawa mbee kana nilikaa mbee tutanavika itina wa muthenya usu waile.
2. Ikomano ya ayumbe nimavitukithasya mwiao ukuendany'a na kithimo kya mithukumile na movundisyo na kumitwa ungu wa kilembete (clause) 1.



Ngwatanio nzeu ya Irongo Cluster.

na Philemon

Ithyi tukundi tunini twa tist na ene kuma Irongo Cluster Kuresoi nthini wa Nakuru twina utanu wa kumumanyithya inywi mbee wa aimi 52,000 ma TIST Kenya kana twina maundu maingii tuvikiite kuma twalika nthini wa TIST.

Kwisila kwa mbumbano sya TIST na momanyisyo nitumanyite maundu meu ta:-

- uimi wa kusuvia (CF) . Nitumanyiitw'e nima ino ya kusuvia nayu aimi aingi maitu nimambiie kutumia nzia ino na nimonete kana ve vaita munene nundu ngetha ni nzeo na ya kwendeesya na mimea ila wavanda na nzia ino yithiawa yi nou na mbailu.
- Utongoi wa kumanisya. yila TIST yaetie woni uu wa utongoi kumaniw'a kaingi andu aingi niaendee na kwakika iulu wa utongoi na makonany'a kila mundu utuika wa utongoi wake na kumanyiany'a nzia nzeo sya utongoi na kwakana kwa andu kivathukany'o. kwisila tist nitwamanyiiw'e iulu wa utongoi uyu wa

kumanisya kithyulululu kuma tukundini tunenene nginya ngwatanioni sya ikundi.

- Kuungamia Ivuio. Kuthukuma kwa vamwe thini wa tukundi tunini kukolany'a mbeu na kunyuva ila nzeo sya kuvanda ni twathuthikie kuthukuma na kwongela ivuio situ.
- Kuvanda kwa miti. Mbee wa TIST, andu aingi nimanatwie mavandaa miti mingi ithengeanie muno na nundu wa uu miti iyikala muno iikeana nundu nikuaniia maunou ma muthanga na kiw'u. Nundu wa uu mundu ndanai atonya kuvanda una liu katikati wa miti ino. Yu nitwonete vena ualyuku munene kuma twambiiia kuvanda miti itaanisye matambya atatu kana ana (3-4m) ila twamanyiiw'e ni TIST. Miti itaanie nesa ninenganae nzeve ikeana kwa mituki na yina vinya na ukethia nikwosa nzeve itavisaa kwa wingi oundu iendee kwiana. Miti minene nikwasya nzeve itavisaa mbingi kutewa na kwoou vaita mwingi kwa muimi wa TIST.

Ngwatanio ya antubochio(cluster) kukwata ndivi yoo kumana na uvandi wa miti.

na William Mwito.

Kuivwa kwa tukundi tunini nthini wa ngwatanio ya Antubochio ninaendee nesa nayeethiwa yi mbailu. Twingi twa tukundi twitu ala mathuthitwe na kuvundiwa yila twina mbumbano sya kila mwai iulu wa kuta nzave itavisaa (Carbon Credit payment) nimandee na kuvanda miti kwa wingi.

Athiani makuma nza ma TIST (external Auditors) nimeetie avitukithya na akiithya (Validators/verifiers) nimatutembelei ngwatanioni yitu mwai muthelu. Nimookie kwona undu tumbanitye uvo na livoti ya miti na kuikiithya moalyuku ala maitetwe ni TIST nimaw'o na mailu. Twina wikwatyo kana kutalwa kwa miti na maundu ala angi twikaa mai maw'o na mailu. Nitwisi kana akunikili(auditors) aya nimo mekuamua kana walany'o wa TIST nthini wa Kenya noulikw'e nthini wa soko wa nzeve itavisaa

wa nthi yothe.(World Carbon Credit markets). Ithyothe nitwisi kana kuvitukithwa kuu nikwavata nthini wa TIST nikana itonye kuendelea na kwiana.



Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

Kiswahili Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Wanachama wa Antubochio Cluster katika picha ya zamani. Vikundi ndogo ndogo hulipwa kila mwezi kwenye mkutano wa Cluster. Hakikisha umehudhulia mkutano wa Cluster kila mwezi.

Ndani:

Ni wakati wa kutayarisha shamba lako la Kilimo hai. *Page 2*

Kuhifadhi mashamba yetu yakiwa yenye rutuba na yenye uzalishaji mzuri. *Page 3*

Kuhifadhi mazingira na miiri yetu ikiwa misafi. *Page 4*

Katiba mpya ya Kenya inavyosema kuhusu mazingira. *Page 5*

Cluster ya Irongo –cluster mpya katika eneo jipya. *Page 6*

Cluster Ya Antubochio –Tumepokea malipo ya miti yetu. *Page 6*



Ni wakati wa kutayarisha shamba lako la Kilimo hai.

WanaTIST katika vikundi vidogo ambao wamelima kwa kutumia njia ya Kilimo hai wameshuhudia kuwa ukulima bora una vuno bora na la kuaminika kuliko ukulima wa kawaida, san asana wakati mvua haitoshi. Mashimo husaidia kushika mvua wowote unaonyesha na kuyawezesha haya maji kupatikana kwa mmea.

Makala haya yatakusaidia kuelewa zaidi kuhusu jinsi ya kujaribu kilimo hai. Kufuatilia mienendo bora ifuatayo kutakusaidia kupata mavuno bora zaidi msimu unaokuja.

Kutayarisha shamba.

Tayarisha shamba lako angalau mwezi mmoja kabla ya mvua.

- Ondoa magugu na vichaka kutoka shamba lako. Usilime.
- Tayarisha mashimo yako ya umbo la mstatili. Yapaswa kuwa na upana wa sentimeta kumi na tano, urefu wa sentimeta thelathini na tano na kina cha sentimeta kumi na tano. Nafasi kutoka shimo hadi lingine iwe sentimeta sabini na tano.
- Chukua mbolea na udongo wa juu na uchanganyishe. Jaza shimo kwa huu mchanganyiko hadi sentimeta tano chini ya ardhi ya kawaida.

Kupanda.

- Unapopanda mbegu ya mahindi (Siku moja au mbili kabla ya mvua), panda mbegu nne kuvuka shimo.
- Kama unapanda wimbi, panda mbegu tano au sita katika kila mwisho wa shimo la kupanda baada ya mvua tosha.

- Funika mbegu kwakutumia mchanganyiko wa udongo na mbolea. Baada ya haya udongo katika shimo uwe sentimeta mbili na nusu chini ya ardhi ya kawaida.
- Nafasi iliyopo juu ya shimo itasaidia maji kufikia mimea mvua ijapo.
- Hauhitaji kutumia mbolea za viwandani katika shamba lako la kilimo hai. Mimea yako itafanya vizuri hata bila ya mbolea za viwandani.

Kuondoa magugu.

- Ondoa magugu kuzunguka mashimo mara kwa mara.
- Usipalilie shamba lote. Nje ya mashimo, mimea yaweza kufunika udongo, huku ikiweka baridi na kuuzuia kumomonyeshwa na mvua au upepo. Tumia panga kutoa magugu katikati ya mistari au katika nafasi iliyopo kati ya mashimo. Palilia mara kwa mara kuzuia magugu kuzaa na kuenea mashimoni.
- Yawache mabaki ya magugu shambani ili yaoze. Haya yatasaidia kuongeza rutuba ya udongo.

Unayofaa kufanya baada ya kuvuna.

- Usiyachome mabaki ya shamba lako. Yawache udongoni ili yaongeze rutuba ya udongo. Mabaki ya mimea yaweza pia kutumiwa kutengeneza mbolea.
- Usiwalishe ng'ombe shambani lako. Tafadhali kumbuka, tutafurahi kusherehekea vuno lako kubwa na kuijua mienendo bora katika eneo lako kupitia jarida hili pamoja na katika mkutano wako wa cluster.

Anza kufanya kazi sasa!



Kuhifadhi mashamba yetu yakiwa yenye rutuba na yenye uzalishaji mzuri.

Umeletewa na Joseph Gituma

Baada ya muda, kama hatutasimamia shamba letu kwa makini, mashamba yetu yatapoteza virutubisho na madini ya udongo, na hivyo basi kuyafanya kupoteza uzalishaji. Hili laweza kufanyika mkulima akipanda mmea wa aina moja ktika misimu mingi iliyofuatana, ama udongo unamomonyoka. Kukuza mmea wa aina moja kwa mashamba yetu mwaka baada ya mwaka pia waweza kusababisha idadi ya wadudu wanaoambatanana mimea hiyo kuongezeka shambani latu kwa sababu wadudu hawa wana nyumba na chakula mwaka baada ya mwaka. Wanaweza kuwa wengi hadi hatuwezi vuna zao nzuri.

Tunapopanda mmea mmoja, twaweza kupoteza rutuba ya udongo. Kupotezwa kwa madini ya udongo yaliyo muhimu kwaweza kupunguza uzalishaji na waweza kusababisha uhaba wa chakula. Twaweza kufanya nini ili kuhifadhi rutuba ya udongo na uzalishaji wa mashamba yetu?

- **Kupanda mimea ya jamii ya kunde au miti ambayo huongeza naitrojini udongoni** –Mimea katika familia ya maharagwe na mbaazi ina vijiumbe katika mizizi ambavyo vyaweza kuchukua naitrojini kutoka hewani na kuibadilisha kuwa katika hali ambayo mimea yaweza kutumia. Tunapopanda maharagwe, kunde, maharage ya soya, na miti kama *Sesbania sesban*, *Leucaena*, na *Acacia*, twaweza kuongeza naitrojini katika udongo wetu bila kuongeza mbolea za viwandani.
- **Utumizi wa mbolea ya mimea na mbolea ya kijani**—Mbolea ya kutokana na mimea yawezakuongeza virutubisho vingi udongoni na kuboresha ulaini wa udongo ili uweze kukaa na maji muda mrefu zaidi. Mbolea yaweza kufanywa kwa kuweka mazo—kuyaweka kwa lundo au katika shimo na kuyaacha kuoza na kuachana— ngozi za

maembe, maganda ya mboga, maganda ya mayai, mabaki ya mimea na majani yaliyoanguka. Mbolea ya wanyama na mkojo waweza pia kutumika . Mbolea ya mimea ni rahisi kutengeneza, iwapo tutaiweka ikiwa na maji na kuigeuza kila baada ya muda mfupi inapokomaa. Mbolea hii inapokuwa ikioza, inatoa joto jingi, ambalo litaisafisha na kuifanya nzuri ya kuongeza shambani. Changanya mbolea na udongo mbolea inapokomaa.

- **Jaribu mzunguko wa mimea au mazao:** Mimea tofauti huongeza na kutoa virutubisho tofauti vya udongo, kwa hivyo virutubisho vinavyotolewa mwaka mmoja vyaweza kurudishwa na mmea huo mwingine mwaka unaofuatilia. Kwa mfano, twaweza kuzungusha mimea shambani kama ifuatavyo:
 - Mwaka wa kwanza – maharagwe
 - Mwaka wa pili – mtama
 - Mwaka wa tatu – mahindi
 - Mwaka wa nne – Kulisha wanyama— Kinyesi cha wanyama huongeza virutubisho vya muhimu mashambani pia.
 - Mwaka wa tano – maharagwe
- **Zuia mmomonyoko wa udongo:** Kwa kuwa virutubisho vingi vya udongo vinapatikana katika udongo wa juu, tendo lolote linalozuia mmomonyoko wa udongo litaweza kupunguza upotevu wa virutubisho. Tumia kilimo hai na upande miti mashambani mwako. Tunapofuatilia mienendo hii bora zaidi, , mashamba yetu yaweza kuwa na mavuno mazuri kwa miaka mingi inayokuja.



Kuhifadhi mazingira na miiri yetu ikiwa misafi.

Umeletewa na Joseph Gituma

Maelfu ya wakulima wa TIST katika dunia mzima hupanda mamilioni ya miti kila mwaka. Miti hii huchangia kwa njia kubwa katika kusafisha mazingira yetu. Miti husafisha hewa, kwa kuchukua hewa chafu ya kaboni kutoka kwa hewa kujenga mashina, majani, matawi na mizizi. Hii ni kazi iliyo na unuhimu mkubwa na wa kusaidia. Watu wa dunia nzima hupata pahali pema zaidi pa kukaa wakati miti mipya inapanwa na miti mizee kuhifadhiwana kulindwa. Kama tunavyofanya kazi katika TIST kusafisha mazingira na hewa yetu, pia, twafaa kufanya kazi ili kujihifadhi na kuhifadhi nyumba zetu zikiwa safi na zilizofaa kiafya. Tuifuatilieni mienendo hii mizuri zaidi, na tuhimize familia zetu na wengine kufanya vivyo hivyo. Wakufunzi, gawaneni mienendo mizuri zaidi kwa afya na usafi na muulize wanacluster kugawana pia hii mienendo bora zaidi pia. :

I. Kuosha mikono yetu -

Kuosha mikono yetu ni rahisi, lakini ni jambo moja lililona umuhimu sana ambalo twaweza kufanya ili kukaa wenye afya na tuweze kuepuka kuenea kwa magonjwa. Wakati wa mchana mikono yetu huchafukana huchukua vijidudu kutoka udongoni, kutoka kwa watu wengine, kutoka kwa nyama isiyopikwa, na mahali penginepo mazingirani. Vijidudu vyaweza kuingia kwa miili yetu na kutufanya kuwa wagonjwa, na vyaweza kuenea kutoka mikononi mwetu hadi kwa wengine, kwa hivyo ni muhimu kuosha mikono yetu vizuri kutumia maji na sabuni ili kuviua vijidudu na kutuzuia kugonjeka. Kuosha mikono yetu sana sana ni muhimu kabla ya kutayarisha vyakula, baada ya kutumia choo na kabla ya kula.

Tusipoosha mikono yetu vizuri, familia zetu zaweza kupata magonjwa kama kuhara wakati mwingi. Masomo yaonyesha kuwa tendo la kusugua mikono pamoja ndio jambo muhimu

zaidi katika kutoa vijidudu. Kama sabuni haipo, mchanga au majivu yaweza pia kusaidia.

2. Kukausha vyombo baada ya kuosha

Kukausha vyombo ni muhimu kwa sababu maji yaliyobaki yaweza kuwana vijidudu na kuvipa pahali pa kuzalia. Twaweza kutengeza kifaa cha mbao nje cha kuwekelea vyombo ili vikauke chini ya jua. Jua laweza kusaidia kuviua vijidudu. Kama hili haliwezi fanyika, twaweza kutumia kitambaa kisafi kukausha vyombo. Kama unatumia kitambaa, tunafaa kukioshana kukikausha kila baada ya masaa fulani ili kuzuia kitambaa kuwa nyumba ya vijidudu na kufanya vijidudu kuenea penginepo.

3. Udhibiti wa panya na mbu

Panya na mbu hubeba magonjwa. Kudhibiti hawa visumbufu, twaweza:

- Kuwazisha viwanja vyetu kutokana na vichaka na nyasi isiyotakikana.
- Maji yaliyotuama hupa mbu mahali pa kuzalia-yatoe maji yaliyotuama karibu na kiwanja chako. Hata maji kidogo yaliyobebwa na uchafu kidogo yaweza kupa mbu wanaobeba ugonjwa wa malaria mahali pa kuzalia, kwa hivyo toa uchafu wote.
- Toa au ufunike chakula chochote kilichobaki.
- Weka uchafu nje ya nyumba katika mkebe uliofunikwa ama shimo la taka
- Fagia nyumba na kiwanja chako kila siku.
- Kumbuka kutumia neti za kuzuia mbu kilawakati

Mkulima wa TIST mwenye afya: Nchi yenye afya



Katiba mpya ya Kenya inavyosema kuhusu mazingira.

Serikali ya Kenya inatambua umuhimu wa kulinda mazingira kwa afya na utajiri wa Kenya na watu wake. Inatupa malengo na haki zetu

Sura ya sitini na tisa, sehemu ya pili ya katiba mpya yaongea kuhusu mazingira na mali asili. Kipengele cha kwanza katika sura hii kinasoma:

Serikali

- kuhakikisha matumizi yanayofaa, utunzaji na hifadhi ya mazingira na mali asili na ugawanaji sawa wa faida inayotokana na mazingira hayo;
- itafanya kazi kufikia na kutunza misitu ili ijenge angalau asili mia kumi ya ardhi nchini Kenya;
- kuheshimu ukamilifu wa michakato ya asilia na jumua za kiikolojia na kudumisha hifadhi ya mazingira na spishi;
- kuhimiza kushiriki kwa umma katika utunzaji, ulinzi na hifadhi ya mazingira hayo.
- kudumisha hifadhi ya kawi na matumizi ya kawi ya kurudiwa upya;
- kuhakikisha kwamba desturi za kijamii na kitamaduni zinazotumiwa asilia na jumua za Kenya kwa utunzaji bora wa mazingira na mali asili zinazingatiwa;
- kuzuia uchavuzi wa mazingira na uharibifu wa ikolojia;
- kutumia mazingira na mali asili kwa njia ambayo itaifaidi watu wa Kenya
- (2) Kila mtu ana jukumu la kushirikiana na nchi kulinda na kutunza mazingira na kuhakikisha ukuzi endelevu kiikolojia na utumizi wa mali asili.

Sura ya sabini yaongea kuhusu utekelezaji wa haki kuhusu mazingira na inasema:

- Iwapo mtu anadai kuwa haki ya kupata mazingira safi na ya kiafya inayotambuliwa na kulindwa chini ya Katiba hii imekiukwa, inakiukwa au inaelekea kukiukwa, kwa pamoja na masuluhu mengine ya kisheria yaliyopo kuhusiana na swala hilo, mtu huyo anaweza kuomba mahakama kutoa suluhisho.
- Kutokana na ombi la mtu yeyote chini ya ibara (I), mahakama inaweza kutoa amri za sampuli hiyo, au kutoa maelekezo kama hayo iwapo itahisi kwamba yanastahili-
 - kuzuia au kukomesha tendo au kosa lolote hatari kwa mazingira;
 - kumshurutisha afisa yeyote wa umma kuchukua hatua ya kuzuia au kukomesha tendo au kosa lolote hatari kwa mazingira;
 - kutoa kwa ukiukaji wowote wa haki ya kupata mazingira safi naya kiafya.
- Kwa haja ya Kifungu hiki, haitamlazimu aliyetuma ombi hilo kudhiririsha hasara waliopata.

Sura ya arobaini na mbili yasema kuwa kila mtu ana haki ya mazingira safi na yenye afya, ambayo inahusisha haki ya;

- kutunziwa mazingira kwa manufaa ya vizazi vilivyopo na vijavyo kupitia hatua za kisheria na zininginezo ambazo-
 - zinazuia uchafuzi wa mazingira na uharibifu wa ikolojia;
 - zinakuza uhifadhi; na

(iii) kulinda maendeleo yafaayo ya kiikolojia na matumizi ya rasilmali asilia

b) Sana sana sile zilipo katika sura ya sitini na tisa; na kuwa na kuwa na wajibu kwa mazingira chini ya sura ya sabini.

Sehemu ya sabini namoja yaongea kuhusu makubaliano kuhusu mali asili na yasema

1. Shughuli yaweza kuidhinishwa na

Bunge kama—

- Maafikiano yanayohusisha utoaji wa haki au makubaliano na au kwa niaba ya mtu yeyote, ikiwemo serikali ya taifa kwa mtu mwingine, ya kutumia mali asili yoyote ya nchini Kenya,
 - Imefikishwa siku au baada ya tarehe inayopaswa
- 2 Bunge kwa kupitia njia ya sheria iliyoungwa mkono katika kila Bunge na angalau thuluthi-mbili ya wabunge wote, linaweza kuachilia mbali maafikiano yoyote kutoka kwa ibara ya (I).1

Mafanikio katika soko la hewa chafu ni muhimu sana ili TIST kufanikiwa: sote tuna jukumu

Mwezi wa saba, kundi la wakaguzi huru walikuja kwa TIST katika Kenya kuhakikisha kuwa data ya TIST ni sahihi. Walikuja kuhakikisha na kuthibitisha mradi wa TIST. Walipima na kuihesabu miti na wakaongea na wanaTIST wengi kujua kuhusu wanayojihusisha nayo katika TIST. Tunashukuru wakulima wa TIST waliojitolea wasaa wao kusaidia watakwimu (wahesabu miti) na wadhibitishi kufikia mashamba ya TIST na wale waliogawana hadithi zao kuhusu TIST.

Haya matembezi ya ukaguzi na wadhibitishi ni muhimu kwa TIST. Kama wakaguzi hawa watapata kuwa matokeo yetu ni sahihi na ya ukweli, data iliyochukuliwa na wahesabu miti kuhusu miti iliyopandwa na wakulima wa TIST itapitishwa na kupewa uhakika. Baada ya hapo twaweza kuza tani za hewa chafu. Pesa zitakazotokana na mauzo haya zitatumika kulipia vikundi vidogo miti yao, kulipia kazi ya wahesabu miti na wafanyakazi, kulipia vitendo vya cluster na mafunzo (semina). Lakini, wakaguzi wakipata kuwa matokeo yetu si sahihi, kuwa tumekata miti ama tunapanga kuikata kabla ya miaka thelathini kuisha, wanaweza kukataa kuhitimisha TIST kuingia katika soko la hewa chafu. Hili litamaanisha kuwa hakutakuwa na pesa za kulipia miti. Hakutakuwa na pesa za cluster. Hakutakuwa na mafunzo au nafasi ya kukaa pamoja na kubadilishana tuliyosoma.

Sote twaweza kuchangia kusaidia TIST kufanikiwa katika soko la hewa chafu.

- Hakikisha kuwa kikundi chako kimehesabiwa miti, na uhakikishe kuwa matokeo ya uheshabu ni sahihi:** Twapaswa kujua ni miti mingapi imeandikwa kuwa iko katikamashamba yetu na kuhakikisha kuwa hizi hesabu ni sahihi na ni zote. Kama mhesabu miti ameandika kuwa kuna miti mia tano katika shamba, lakini mkulima anamiti mia nne pekee, na asiseme kitu, mhesabu miti pamoja na mkulima wataumiza TIST yote. Wakati shamba ilo linakaguliwa, mkaguzi ataona kuwa data sio sahihi na si ya ukweli, na kwa hivyo TIST haitaweza kuuza hewa chafu. Uliza wawakilishi wa cluster yako kama haujui ni miti mingapi imehesabiwa katika mashamba yako na ya



wanakikundi chako. Kama matokeo si sahihi, ambia wawakilishi wa cluster na wafanya kazi wa TIST wakati huo ili data isahihishwe.

- **Hakikisha umelewa kandarasi ya GhG:** Kandarasi ya GhG ni agano kati ya wakulima wa TIST na Clean Air Action Corporation, ambao wanasimamia ufuatiliaji na mauzo ya hewa chafu kwa niaba ya TIST. Katika kandarasi hiyo, tunaahidi kupanda miti na kuiweka ikikua kwa zaidi ya miaka thelathini. Tunaahidi, kama kikundi kidogo, kupanda miti elfu moja kila mwaka. Kama malipo, tunapata motisha kwa ajili ya miti kama malipo ya mapema ya kutokana na mauzo ya hewa chafu wakati miti yetu itahitimu kuingia katika soko. Tunapata mafunzo na usaidizi ili kufanikiwa. Twapaswa kuwa wenye

ukweli katika agano letu kupanda na kuhifadhi miti na kuelewa sheria za soko la hewa chafu.

- **Panda miti mingine, itunze miti yako, ingiza marafiki na majirani wako katika TIST.** Bila miti, hakuna hewa chafu inayowekwa mitini, hakuna biashara ya kuhifadhi TIST na kupata faida zake. Tupandeni miti mingine na tuambie watu wengine kuhusu TIST ili wajiunge pia. Biashara yenye afya itakua, na sote twaweza saidia kufikia hilo. Biashara zenye afya, mashamba yenye afya, sayari yenye afya: tufanyeni yote tunayoweza kusaidia TIST kufanikiwa.

Kwani, SISI ni TIST! Tukifanya kazi pamoja, tukifuatilia maadili ya TIST, tutayafikia mambo makubwa.

Cluster ya Irongo –cluster mpya katika eneo jipya.

Umeletewa na Philemon

Sisi, wanaTIST katika vikundi vidogo kutoka cluster ya Irongo, Kuresoi katika jimbo la Nakuru, tunahamu ya kugawana na wengine wa wakulima wa TIST katika nchi ya Kenya walio zaidi ya elfu hamsini na mbili kuhusu tuliyooweza kufikia tangu tuingie katika TIST.

Kupitia mafunzo wa TIST katika cluster, tumeyajua mambo mapya kama:

- Kilimo hai. Tumefunzwa kilimo hai na wengi wa WanaTIST wameanza kutumia kilimo hai. Mimea tunayokuza kwa kutumia kilimo hai ina afya bora, kuliko inayokuzwa kwa kulima na njia ya kawaida, na tunatarajia mavuno bora msimu huu.
- Uongozi wa kuzungusha na wa utumishi. TIST ilituletea wazo jipya la kuzungusha uongozi kila baada ya muda fulani kama njia ya kujenga uwezo wa kuongoza wa watu pamoja na kugundua vipaji vya uongozi katika watu tofauti,

katika vikundi vidogo pamoja na katika cluster.

- Usimamizi wa vitalu vya miti. Kufanya kazi pamoja katika vikundi vidogo vya TIST, kuokota na kuchagua mbegu nzuri kumetupa motisha ya kufanya kazi zaidi na kuongeza idadi ya vitalu.
- Kupanda miti. Kabla ya TIST, watu wengi walipanda miti ikiwa imekaribiana sana, jambo ambalo liliifanya miti kukua polepole kwa sababu miti ilishindana sana. Hili pia lilimaanisha kuwa hwangeweza kwa urahisi kupanda mimea pamoja na miti. Sasa tumeona kuwa kuipa miti nafasi inayofaa (mita tatu kufika nne) ni mwenendo mzuri zaidi. Miti ambayo ina nafasi nzuri ukua kuwa yenye nguvu na afya, na pia yaweza kuchukua hewa chafu mingi zaidi jinsi inavyokua. Miti mikubwa zaidi yamaanisha tani zaidi za hewa chafu zaweza kuuzwa, na pesa nyingi zaidi kwa wakulima katika TIST

Cluster Ya Antubochio –Tumepokea malipo ya miti yetu.

Umeletewa na William Mwito.

Malipo ya vikundi vidogo katika cluster yetu ya Antubochio, yamekamili kwa mafanikio. Vikundi vyetu vingi, vimehimizwa na mafunzo tunayopata katika mikutano ya cluster na malipo haya ya mapema ya kutokana na soko la hewa safi, vimeendelea kupanda miti mingine mingi.

Wakaguzi wa TIST wa nje, wanaojulikana pia kama wathibitishi au wahakikishi, pia walitembelea cluster yetu mwezi uliopita. Walikuja kuona kama data zilizokusanywana kutaarifiwa kuhusu miti yetu na kuhusu TIST na matokeo yake ni sawa na yaliyopo. Twatumaini kuwa hesabu ya miti na shughuli nyingine walizokuwa wakiangalia ni sawa na zilizopo. Twajua kuwa wakaguzi hawa wataamua kama mradi wa TIST

katika Kenya utashiriki katika soko la dunia la hewa safi, na twajua kuwa kufuzu kuingia katika soko hili ni muhimu sana kwa TIST kuiwezesha kufanya kazi na kukua.



Mazingira Bora



TIST

The International Small Group & Tree Planting Program
www.tist.org

Kipsigis Version

An Environmental, Sustainable
Development and Community Forestry
Program.



Membraek ab Antubochio Cluster en pichait ni. Groupishek che meng'ech keliboni en kila arawet en toyoshek ab Cluster. Ibwaat i'itchi tuyet eg'e t ugul nebo Cluster.

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Kasarta nepo , chopet ‘tap imbaret kokany CF.

Groupishek chepo TIST che kikonetke akopo CF, kokobaoryan kole chang’ ruutik kosir yon kakiminso keboishen oratinwek chepbo keny, sanasana yon wo robta.

Toreti kering’oik chhoton bek koma rwai en imbar, ak ko’kochi minutik bek che yomotin.

Ng’alek chuton kotoretin inai kilimo hai komye ak ole kiboishoten. Ang’ kot isib oratinwek che choton kochong’oite ruru.

Ole kitayorishondo imbarenik.

l’ngol imbaret arawet ageng’e kotomo kobwa robwek.

- l’tilil imbaret koisto ke chema’si .Amati ng’ol.
- Bal kering’oik che rectang’ular . Nyolunot ko 15 cm en boroindo , 35 cm koindo and 15 cm loindab kering’et . Lochindap kering’oik keyoche ko 75 cm.
- inde mbolea safi che ing’olotin ak mbolea chebo duka ,ng’ung’unyat ‘ab barak . Inyit kering’et ak kong’olanik choton agoi 5 cm.

Minet.

- Yon imine keswek ‘ab andek (betushek 1-2 kotomo konam robta), Min kewek 4 kong’et kering’et.
- Ang’ot imine , min 5-6 keswek en mwisho nebo keringoik yon kokorobon.
- Tuch keswek ak ng’ung’unek ak mbolea 2.5 cm .Koboch yuton konyolunot koloindab ng’weny ko 2.5 cm kong’eten barak.
- Nafasi nemiten barak ko’kochin.

- Molazima iboishen mbolea chebo fertilizer en Conservation Farming plot. Keswek kuk korurtos ogot ang’o meboishen mbolea chebo fertilizes .

Istoet ‘ab saratik en imbar.

- Isten saratik en kering’et kila weekit
- Mati’iste saratik en imbaret tugul. Tobonwokik ab kering’oik ,Minutik kotuche ng’ung’unek, koko’koite ng’ung’unek agityo koter komoib robta ana ko koristo. Iten saratik chemi yebo kering’et kityo. Boishen panget ltilil imbaret koistoke saratik. Isten saratik kila mara asi maibista kochut kering’et.
- Bakaten saratik che’ketutu en imbar asi konuno. Tese bombonindab imbaret.

Tuguk che kiyoe yon kakebutis.

- Matibel saratik che kong’et en imbar. Bakagten saratik choton en imbar asi kotes mbolea en imbar. Kimuche kora keboishen ke chobe manure .
- Amati bokokchi tuga koaget en imbaret. Kaikai ibwat ile, Tun kiboiboienchini tugul tun koruryo minutik kuk ak inetke en youtik che miten en erea neng’unget ak tuyoshek ‘ab cluster asi kotesak rurutik.

Inam ing’unon!



Ribet ‘ab imbarenik chok kotinye mbolea ak bombonindo.

By Joseph Gituma

En kasarta ne malo, angot ko mokirib imbarenik chok , komuch kobet imbarek chok mbolea chemitin en imbaret ak minerals, ak koik imbarenik chok che ng’eringen. Inoniton komuch koyaak yon kamin temindet aina agenge nebo minutik(monoculture), anan yon kala bek ng’ung’unek.Yon kakimin aina ageng’e nebo minutik kila kenyit komuch kotesak tyong’ik ab minutyonoton en imbarenik chok ng’amun tinye omitwokik kila kenyit. Imuch kochanga tyongichuton en imbarenik chok.

Yon kakimin aina ageng’e nebo minutik , kobose bombonindap imbarenik chok. Yon kabosok mbolea en imbarenik chok komuche kobosok rurutik akityo kobit rubet.

Kimuche keyai ne asi kerib imbarenik chok ?

I **Min leguminous crops anan ko ketik che ibu nitrgen**— Minutik cheu ng’endek ak njoogek kotinye microbes ako wole nitrogen keboishen en ng’ng’unek.Yon kakimin ng’endek , cowpeas, soy beans, ak ketik cheu *Sesbania sesban*, *Leucaena*, ak *Acacia*, kimuche ketes nitrogen en ngungunek komogiboishen mbolea chebo kantin.

- **Mbollea chebo minutik ak tuga ak neo**—Mbolea chebo tuga kotese rurindab imbaret ak kotes bek che ng’etu imbaret . Natural fertilizers kimuche kechob kokinin –kikonori en kering’et anan ko ole kerat ak kebakach konunyo—Makatet ‘ab mango, ingwek , shell nebo mayainik , sokek ak minutik che ng’etunotin en imbaret.Kimuche kiboishen kinyesi chebo tuga anan ko

sokosik. Mbolea safi korahisi kechob , yon kokinai kerib komye ag’ibwat kingolng’ol asi kochobok komye .yon nundos mbolea safi ,kocheru maat newon neyoe kotililit mbolea kotomo kinde imbarenik chok. Ing’olng’ol mbolea ak ng’ungunek kotomo inde imbar.

- **Inetke iyai crop rotation(zungukanet ‘ab minutik)**: minutik che terterchin kotese mbolea ainaaina en imbarenik chok, so ing’unon mbolea che kokiisto en kinyit ageng’e kimuche kewek en kenyit ne rube.Kou ingunon kimuche kisub mtindo ini en imbaret:
 - Year I – Ng’endek
 - Kenyit ab oeng – mosonik
 - Kenyit somok –pandek
 - Kenyit ‘ab ang’wan – Ribet ‘ab tuga— kinyesi chebo tuga kotese rurindab imbarenik chok, kora.
 - Kenyit ab mut –Ng’endek
 - Teri bet ‘ab ng’ung’unek:Angamun kinyoru mbolea che chang’ en barak en imbaret, koyoche keyai ki age tugul ne tere koma la bek ng’ung’nyat niton.Inetke iyai Conservation Farming ak imn ketik en imbarenik chok.Angot kisub maagiso ichu kotesokse rurutik en imbarenik chok ak kobos rupet.



Ribet ‘ab emet ak borwek chog’.

By Joseph Gituma

Temik ‘ab TIST en ngwony komugul komine ketik millionishek kila kenyit .Ketik chuton kotese kororonindab emetnyon .Itililel ketik koristo ,kule koristo ne ya asi koboishen kotich ketit kotugul, sogeg ak tikitik . Inonio kobo maanan saidi en emet’nyon . chitugul en ng’wony konyoru emet kokararan yon kakimin ketik che mbya ak che yosen koribotin.

Kou ole ki’boishoitoi en TIST kitilil emet ak koristo, koyomeke ketililekitun agechek ak keker kele tilil korik chok . Ongisib tugul koborunoniton, ak kehimisan families chechoget ak bik ‘ab kokwet koyai kou neton. Konetik , obchei na’an nibo tililindab borto ak emet ak membaek kwok chebo cluster . kora :

1. Kounet ‘ab eunek -

Ko’unet ‘ab eunek ko kit ne rahisi , ako niton ne toretch kerib tililindab borwek ak koterech komanamech mianwokik .Yon kiyoe kasishek bet , konome eunek chok murindo chemi; ng’ung’unek , bik alak yon kakikatt, banyek chetomo ke’bel , ak oldo alaktugul . Murindo komuche kochut borwekchok ak konam mi’anwokik , ak mi’aniton kimuche kinamde bik alak , ingunon ko bo maana ki’un eunek chok ak bek chetililen ak sabunit asi manamech mianwokik .Kounet ‘ab eunek kobo maanan sanasan yon ; kichobe omitwokik, kokibunu toilet, ak yon kiomishei .

Angot komokiun eunek konomech mionwokik cheu diarrhea .Yon kiune eunek ketinytiny komye. Yon momiten subunit , kimuche keboishen muchangek.

2. Yon kakitilil saniske ak kikombok , koyoche kiyamsi

Kayamet ‘ab utensils kokararan ngamun istoke bek che miten tuguk choton asi mochomchi simto kong’et. Kimoe utensils en saanet asi koistoke bek , koyamyo . Bore asista simdo . kora kimuche keboishen ing’oryet ne tilil kiyamsi utensils. Yon kokiboishen ing’oryet koyoche kemwet ing’oryonoton kila mara asi manam murindo asityo kospreaden mionwokik.

3. Ole kiterito mosquito ak murek

Murek ak mosquito komuche koib mionwokik. Keter tyong’ik chu konyolu:

- Swach compound nengung’et kila mara l’isite osnoshek chemi bi en kot.
- Bek che kateremak komuche koik meng’et ab mosquito – isten bek chemi karibu ak kot. Ogot bek che tuten chemi kab saratik komuche koik ole breedenen mosquito..
- Konor komye omitwokik che kong’et.
- Tuch saratik en bi nebo kot.
- lbuch kot ak compound kila
- lbwat iboishen mosquito net kila betut.

A Healthy TIST Farmer: A Healthy Nation



Mwoe ne ngatutiet ne lel nebo Kenya kotiny ge ak Timwek.

En kebebertab 69 komostab 2 nebo ngatutiet ne lel ko ngalalen agobo Timwek ak tugukab timin chebo kamanut. Komosta ne tai en ngatutitioni komwae kole;

- I. Serikali kowendi –
 - a. Ko ger kole kakiboisien ko mie, kagikenda,kagibangan ak kerib timwek ak tugukab timin che bo kamanut ak ko ger kole kakibcheita komie borotet ne kakinyor kooyob chu.
 - b. Ko bois asi konyor ak korib ketik chebo kebebertab 10 en 100 chebo ketik en emetab Kenya.
 - c. Korib ak kotegis ngomnotetab tuguk ak ngomnotetab keny chebo kororindab emet ak mogornatetab tugukab timwek chebo bororiosiek.
 - d. Kogomit boisietab bororiet en banganet,ribet ak kobois komie timwek.
 - e. Korib borotetab timwek ak kororindab sobetab emet.
 - f. Kogon banganet ne kisibtoi chigiletab emet ak kasibetab ribsetab emet
 - g. Koisto boisionik che imuch kogon wechetab emet;ak
 - h. Kendaetab tugukab timwek ak tugukab kamonut chebo timin si ko torret bikab Kenya.
2. Chito age tugul kotinyei boisiet ko gon gei kotoretge ak kebeberwekab serikali ak bik alak en ribsetab timwek ak koger kakiboisien komie asi kotoret bik ak en boisietab tugukab timin.

Kebebertab 70 ko naglale agobo ngatutikab ribetab emet ak serikali;

- I. Ngot komwa chi kole kakireben imandanyin ne bo timwek che tililen ak che kororon che igochin ak koribe ngatutiet en kebebertab 42,ko wendi komuch keyeten anan kengem ana kebar,chichoton komuch kwo kotini konyor

toretetab ngatutik che imuch komi kotiengei ak niton.

2. Yon kakosom en ngatutiet ne tai,komuch kotini kogon ngatutiet ne imuch koger kole nyalunot-
 - a koeten ,kotonosi anan ko ma testai boisiet age tugul ne imuch koweche timwek
 - b. Ko ngat chitab serikali koib kakwoutik che imuch kotononsi anan ko ma testai boisiet noton ne imuch koweche timwek ;anan
 - c. kogochi lipanet chi age tugul ne imuch koga gi wech imandanyi nebo timwek che tililen ago kororon.
3. Amun en boisietab kebeberi ,ko nyolu ko chito ne kasom en kotini kobor asenet ana ko ganyor wechetab borta.

Kebebertab 42 komwaei kole chi age tugul kotinyei chmchinet konyor timwek che tililen ago kororon che boto imanda ne bo;

- a. Konyor timwek che ribotin si konyorunen borotet en ibinwek chebo nguni ak chebwonon koyob ngatutik ak banganutik alak,
- b. Missing che kagimwa en kebebertab 69; ak kosich boisiet che tinyegei ak timwek che kagon en kebebertab 70.

Kebebertab 71 ko ngalalen agobo kaguiyosiek chebo tugukab kamanut chebo timwek ak serikali

- I. Kaguiyosiek ko nyor chamchinet en kot ne kingate ngatutik ngot-
 - a) ko boto chamchinet anan kaguiyet en chi age tugul,ne boto serikalit ne o, koitchi chi age tugul en boisietab tuguka komanut chebo Kenya;ak
 - b) ka gi yonchin en anan ko kaibata tariktab kanaametab ngatutiet.
2. Kot ne kingatei ngatutiet kobendi kochobei ngatutik che konu banganetab kayonchononi che kaiyonchin kotiengei ak ngatutiet ne tai.



Irongo Cluster – Cluster ne imbya en ole imbya.

Ksire inendet Philemon

Echek ,TIST members en groupit ne mingin en Irongo Cluster, Kuresoi en Nakuru County, kokiboiboi kebchei ak temik 52,000 chebo TIST en Kenya tuguk che kikinethe koboch kin kechutu TIST.

EN konetutik chebo cluster en TIST, ko kokinetke tukuk che chang' kou:

- Conservation Farming.kokinetech agobo CF ak kokonam membaek koyai kou ole kinetitech.Minutik chebo CF ko kimen ne matin ,kororon kosir che kokikutchi ,ak kkimongu kele chang'oekitun urutik kasari kakibe.
- Sung'ukanet 'ab kandoinatet en groupit. Ki'ibwech TIST ng'olyot 'ab zung'uganet 'ab kandoinatet en groupit inoni ko'toreti kotech kondoinatet nebo chi'tugul ak komugchi bik alak konai talentaishek kwai. En TIST ko'kokenai ole kimugto kewal kandoinatet en grouit koitchi chi ag'e tugul,koboch groupishek che meng'ech agoi levelit 'ab cluster.

- Ole kiribto betishek 'ab ketik. Keyoe kasishek en kibag'enge en groupishek chebo TIST, koruruget ab kewek che kororon chebo ketik, ko'kotecheg ago konech kimnotech kotage tes betishek ab ketik.
- Mine tab ketik.Kin kotomo koit TIST,ko'kimine bik ketik korigchike , ne kiyoe ketik korut mutyo ang'amun borchinge ketik omitwokik . Kora kimako 'nyumnyum kemin ketik ak tuguk alak . Ing'uni kokeker kele lochindab ketik (3-4 m apart) kokararan achei.Ketik che koki-lochin komye korutu ko'kororonekitun, ak kora kogule carbon che chang'. Yon echen ketik ko'maanishoni kole chong'oekitun makaa ak carbon asi kotes profits chebo temik ab TIST.
- Lochindab ketik (3-4 m apart) ko' kit nekararan achei .Ketik che ko-kilochin komye korutu ko'kororenekitun ak koechekitun,ak komuche kogul carbon che'chang'.Yon yechen ketik kotese kiloishak ab ketik ak kityo kotes robinik che siche temik chebo TIST.

Antubochio Cluster –kokelibanech robinik 'ab ketik.

By William Mwito.

Groupishek che meng'ech chebo libanet en cluster, Antubochio, kokoya'ak komye . Che chang' en groupishek chemeng'ech, chekikinyoru en konetushoshek ak tuyoshek 'abCluster ak advance carbon credit payment,koko'kotesta komin ketik che'cheng'.

Auditors chebo sang' en TIST, chetakekuren Validators/Verifiers, kora kokabwa tuyoshek en Cluster arawet nikonyek. Ko'kabwa koker' report ak information chekokakinyoru asityo koreportechi TIST ak ako choton rebotishek, mo'ibetotin. Kimongu kele koitete 'ab ketik kokoyaek kou ole nyolunot. Kingen kele Auditors ichuton che'amuoni angot ketesto TIST Kenya

program en world carbon credit markets, ak kingen kora kele bo maana koqualify TIST asi kotesta ak boishonik en Kenya.

